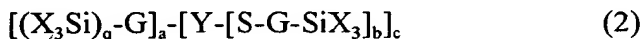
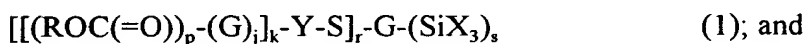


BLOCKED MERCAPTOSILANE COUPLING AGENTS FOR FILLED RUBBERS

ABSTRACT OF THE DISCLOSURE

5 Disclosed herein is a blocked mercaptosilane selected from the group consisting of:



wherein

Y is a polyvalent species $(\text{Q})_2\text{A}(=\text{E})$ selected from the group consisting of $-\text{C}(=\text{NR})-$;
 $-\text{SC}(=\text{NR})-$; $-\text{SC}(=\text{O})-$; $-\text{OC}(=\text{O})-$; $-\text{S}(=\text{O})-$; $-\text{S}(=\text{O})_2-$; $-\text{OS}(=\text{O})_2-$; $(-\text{NR})\text{S}(=\text{O})_2-$; $-\text{SS}(=\text{O})-$;
 $-\text{OS}(=\text{O})-$; $(-\text{NR})\text{S}(=\text{O})-$; $-\text{SS}(=\text{O})_2-$; $(-\text{S})_2\text{P}(=\text{O})-$; $-(\text{S})\text{P}(=\text{O})-$; $-\text{P}(=\text{O})(-)_2$; $(-\text{S})_2\text{P}(=\text{S})-$;
 $-(\text{S})\text{P}(=\text{S})-$; $-\text{P}(=\text{S})(-)_2$; $(-\text{NR})_2\text{P}(=\text{O})-$; $(-\text{NR})(-\text{S})\text{P}(=\text{O})-$; $(-\text{O})(-\text{NR})\text{P}(=\text{O})-$; $(-\text{O})(-\text{S})\text{P}(=\text{O})-$;
 $(-\text{O})_2\text{P}(=\text{O})-$; $-(\text{O})\text{P}(=\text{O})-$; $-(\text{NR})\text{P}(=\text{O})-$; $(-\text{NR})_2\text{P}(=\text{S})-$; $(-\text{NR})(-\text{S})\text{P}(=\text{S})-$; $(-\text{O})(-\text{NR})\text{P}(=\text{S})-$;
 $(-\text{O})(-\text{S})\text{P}(=\text{S})-$; $(-\text{O})_2\text{P}(=\text{S})-$; $-(\text{O})\text{P}(=\text{S})-$; and $-(\text{NR})\text{P}(=\text{S})-$; wherein the atom A attached to
 10 unsaturated heteroatom E is attached to the sulfur which in turn is linked via a group G to the
 15 silicon atom;

each R is chosen independently from hydrogen, straight, cyclic, or branched alkyl that
 may or may not contain unsaturation, alkenyl groups, aryl groups, and aralkyl groups, with
 each R containing from 1 to 18 carbon atoms;

20 each G is independently a monovalent or polyvalent group derived by substitution of
 alkyl, alkenyl, aryl, or aralkyl, wherein G can contain from 1 to 18 carbon atoms, with the
 proviso that G is not such that the blocked mercaptosilane would contain an α,β -unsaturated
 carbonyl that can undergo polymerization reactions, and if G is univalent, G can be a hydrogen
 atom;

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X is independently selected from the group consisting of -Cl, -Br, RO-, RC(=O)O-, R₂C=NO-, R₂NO-, R₂N-, -R, and -(OSiR₂)_i(OSiR₃) wherein each R is as above and at least one X is not -R;

p is 0 to 5; r is 1 to 3; z is 0 to 2; q is 0 to 6; a is 0 to 7; b is 1 to 3; j is 0 to 1, but it may be 0 only if p is 1; c is 1 to 6; t is 0 to 5; s is 1 to 3; k is 1 to 2; with the provisos that (I) if A is carbon, sulfur or sulfonyl, then (i) a + b is 2 and (ii) k is 1; (II) if A is phosphorus, then a + b is 3 unless both (i) c is greater than 1 and (ii) b is 1, in which case a is c + 1; and (III) if A is phosphorus, then k is 2.